# Codes & Standards in Energy Efficiency Policy

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# Title 24 Standards Are Unique

- Adopt cost-effective measures
- Based on solid analysis
  - Cost of measures
  - Availability and reliability
  - "Ready for prime time"
- Doesn't depend on achieving "consensus"
- Not based in "expert opinion"
- Most rigorous in the nation

# Bringing Everybody Else Along

- Emerging technology for early adopters
- Utility incentives for "doing the right thing" with advanced efficiency – preparing the market
- Standard good practice – based on economics and availability
- Standards set the floor for the remaining buildings/appliances

# Why doesn't the market do it?

- Building industry – economic pressures push toward the bottom
- Builders can sell anything they build
- Buyers don't recognize energy features
- Energy savings don't benefit builder
- Often don't benefit the tenant (or the owner)
- Capital budgets separate from operating budgets
- Decisionmakers' business focuses on other things

# Following Through - Compliance

- Have traditionally relied upon:
  - Licensed designers/builders
    - Often untrained in energy matters
    - Subject to economic pressures
  - Building officials
    - Often untrained in energy matters
    - Don't have time to enforce all standards
    - Emphasize health/safety before energy efficiency
- New approaches
  - Utility program participation
  - 3rd party verification
- Appliance standards are a separate problem…

# New Resource – Utility Program

- Statewide C&S Program
  - CASE Initiatives
  - Training – designers & code officials
  - Research and support studies
- Brings extra resources to adoption process
- Provides upgrade path for standard practice
  - Start with emerging tech – pilots/demos
  - Build market with incentive programs
  - Lock in savings with codes and standards
  - Most cost effective way to reach laggards

# Examples of CASE Initiatives

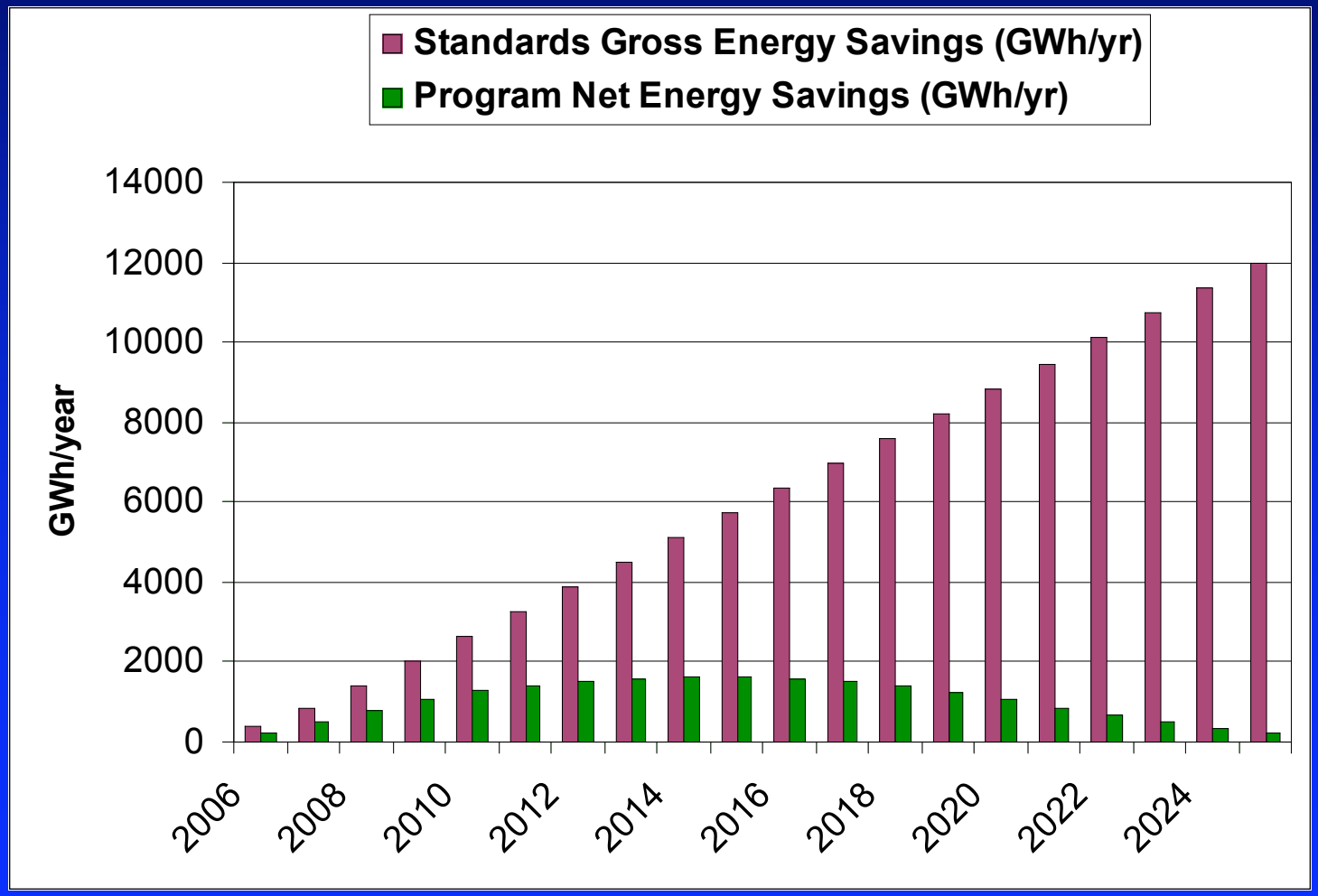
- Time Dependent Valuation
- Residential Building Standards
  - Hardwired lighting (CFLs)
  - Multifamily water heating
  - HVAC & windows in existing bldgs.
- Nonresidential Building Standards
  - Skylighting and photocontrols for big box
  - Automatic bi-level controls
  - Modular Classrooms
- Appliance Standards
  - Commercial refrigeration, large packaged A/C
  - Pool pumps, light bulbs, consumer electronics

# Estimated C&S Savings vs. Goals

| | 2006 | | | 2007 | | | 2008 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Goal | C&S | C&S % | Goal | C&S | C&S % | Goal | C&S | C&S % |
| Energy (GWh/yr) | 2,032 | 240 | 12% | 2,275 | 488 | 21% | 2,504 | 784 | 31% |
| Demand (MW/yr) | 776 | 70 | 9% | 1,254 | 145 | 12% | 1,782 | 229 | 13% |
| Gas (Mtherm/yr) | 15.3 | 5.1 | 34% | 18.0 | 9.7 | 54% | 21.1 | 13.7 | 65% |

Goals from: The California 2006-2008 Energy Efficiency Portfolio - A Review of Early IOU Planning Documents, May 27, 2005, CPUC Energy Division

# Long-Term Savings (Energy)



# Lifetime Savings Estimation

- Program Net Energy Savings – savings that would not have accrued without the program
- Factors:
  - Standards Gross Savings
  - Naturally occurring market adoption rate
  - Normally occurring standards adoption time
  - Level of code compliance (non-compliance)
  - Measure life
  - True-up for actual installation rate (future)

# Timing Mismatch in Planning

- CFL installation:

  Pay the $$, get the savings now

  - It happens in the same year
  - It happens once
- Codes & Standards:

  Pay the $$, the savings start later

  - 1-3 years before standards take effect
  - New savings every year from then on

# Questions?

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